

SECTION 10424
SPECIALTY SIGNAGE

PART 1 - GENERAL

0.1 DESCRIPTION OF WORK

- A. Work Included: This Section specifies specialty signage as indicated on the Drawings and specified herein.
- B. Related Work: The following items are not included in this Section and will be performed under the designated Sections:
 1. Section 05500 - MISCELLANEOUS METALS; Frames and supports not integral with signage.
 2. Section 10420 - PORCELAIN ENAMEL SIGNAGE.
 3. Section 10422 - FIBERGLASS SIGNAGE.
 4. Section 10426 - TACTILE/BRAILLE SIGNAGE.
 5. Division 16 - ELECTRICAL; "Exit" signs.
- C. Provide all signs and graphics required by authorities having jurisdiction even if not otherwise indicated in the Contract Documents.
 1. Fire sprinkler room identification shall comply with Fire Department requirements.
- D. Permits: Obtain permits required by Local Authorities for installation of signs.

0.2 SUBMITTALS

- A. Product Data: Submit manufacturer's product data, installation instructions, use limitations and recommendations for each material used. Provide manufacturer's certification stating that materials comply with requirements.
- B. Shop Drawings: Provide large scale shop drawings for fabrication and installation of each sign type including mounting. Provide large scale layouts of sign wording, spacing, type size and style. Provide plans, elevations, and details of anchorage, connections and accessory items. Provide installation templates for work installed by others.
- C. Templates: Submit full size templates or film positives for all messages and graphics for all Sign Types. Outline drawings of letterforms will not be accepted as templates.

- D. Sign Schedules: Submit complete Sign Schedule for each sign. Use same designation as on the Drawings.
- E. Samples for Approval: Sample Submittals are in addition to quantities shown in sign schedule. They are record project samples to be kept on file at the Engineer's office.
 - 1. For each typestyle specified submit full samples of all alphabets, including numbers and punctuation, on 11 inch by 17 inch photostats and samples of standard letter spacing and word spacing (at min. of 3/4 inch cap height) for approval prior to fabrication.
 - 2. Submit artwork of all symbols and logos to be used on 11 inch by 17 inch Photostats for approval prior to fabrication.
 - 3. Submit samples of colors on all substrates specified for each Sign Type.

0.3 QUALITY ASSURANCE

- A. MBTA Reference Standard: Comply with the MBTA, Guidelines and Standards, Part V, Graphics, Revised Fall 1990 with 1995 Supplement. A copy can be viewed or supplied on request to the MBTA Design Department, 500 Arborway, Jamaica Plain, MA 617-222-5044.
- B. Reference Standards: The work shall conform to the codes and standards of the following agencies as further cited herein:
 - 1. ADAAG: Americans with Disabilities Act Accessibility Guidelines
 - 2. ANSI: American National Standards Institute.
 - 3. ASTM: American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103 as published in "Compilation of ASTM Standards in Building Codes".
 - 4. MAAB: Massachusetts Architectural Access Board.
- C. Source: For each type of material required for the work of this section, provide primary materials which are the products of one manufacturer. Provide secondary materials which are acceptable to the manufacturers of the primary materials.
- D. Accessibility: The ADAAG and the MAAB regulations are pertinent to the design and installation of items covered under the work of this Section. When guidelines conflict, the guideline giving greater access shall be applicable.
- E. The approved manufacturer shall have experience in the type of work required, shall have a reputation for doing satisfactory work on time; and shall have recently successfully completed similar work.
- F. The Contractor is responsible for the proper engineering of all items. The internal structure, dimensions and specifications for all items shall be

indicated in the Contractor's shop drawings. Sign Contractor to engineer signs to proper level to withstand abuses of their environment.

- G. Coordination: The work in this Section shall be completely coordinated with the work of other Sections. Verify dimensions and work of other trades that adjoin materials of this Section before the installation of items herein specified. Cooperate with such trades to assure the steady progress of all work under this Contract.
- H. Hold Points - Mockups: Provide one full size mock-up in place of each type of signage.
 - 1. If Engineer determines mockups do not comply with requirements, provide new identification device until mockups are approved.
 - 2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

0.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver and store work under this Section in a manner to prevent cracking or stress of components and to prevent mechanical damage or damage by the elements.
- B. Deliver work under this Section to Site in ample time to avoid delay in job progress and at such times as to permit proper coordination of the various parts.
- C. Delay installation of this work until near time of Substantial Completion.

0.5 PROJECT CONDITIONS

- A. Inspection of Site: The Contractor shall visit the site of the proposed work and fully acquaint himself with existing conditions and fully inform himself as to the facilities involved and the difficulties and restrictions attending the performance of the Contract, prior to submitting his price quotation.
- B. Substrates: Proceed with work of this Section only when substrate construction and penetration work have been completed.

PART 2 - PRODUCTS

0.1 ACCEPTABLE MANUFACTURERS

- A. Specialty Sign Manufacturers: Provide products of one of the following manufacturers if they meet or exceed the requirements of these specifications:

1. Andco Industries Corp.
2. A.R.K. Ramos Manufacturing Company, Inc.
3. Best Manufacturing Co.
4. Gemini, Inc.
5. Lake Shore Markers.
6. Metal Arts, Division of L & H Manufacturing Co.
7. OMC Industries, Inc.
8. The Southwell Company.

0.2 MATERIALS

A. Steel:

1. Structural steel materials, details and workmanship shall conform to the specifications of the latest edition of the A.I.S.C. Specifications for the Design, Fabrication, and Erection of Structural Steel Buildings.
2. Steel posts shall be Schedule 40 pipe, 2 inch internal diameter, ASTM A120 Standard Weight. The bottom of each post shall be deformed to provide for anti-rotation.

B. Aluminum: Alloy 6063-T5, urethane finish.

C. Plywood: APA Graded, Exterior Grade A-C Plywood and Marine Grade Plywood, as required.

D. Bronze:

1. Cast bronze buttons shall be solid silicon bronze, sand cast from pre-alloyed ingots with no scrap permitted, with an applied wax finish. Original of buttons shall be sculpted from reproductions of the artifacts as indicated in the drawings. Bronze shall be cast in sizes and thicknesses as shown on drawings. Sand sides to a smooth finish.
2. Original buttons shall be sculpted in clay from reproductions of the artifacts as indicated in the drawings.
3. Sculptor shall be pre-qualified for the work indicated through submission of one complete, full scale, BT-5 sculpted clay button. If approved, the button may be used for casting production.
4. Sculpting work to be provided by qualified sculpture studio.

E. Plastic Laminate: Provide high pressure laminate engraving stock, with face and core plies in contrasting colors, in finishes and color combinations as selected by Engineer from manufacturer's full range.

F. Cast Acrylic Sheet: Provide cast (not extruded or continuous cast) methyl methacrylate monomer plastic sheet, in sizes and thicknesses indicated, with a minimum flexural strength of 16,000 psi when tested according to ASTM D 790, with a minimum allowable continuous service temperature of 176 deg F, and of the following general types:

1. Transparent Sheet: Where sheet material is indicated as "clear," provide colorless sheet in matte finish, with light Transmittance of 92 percent, when tested according to the requirements of ASTM D 1003.
2. White Translucent Sheet: Where sheet material is indicated as "white," provide white translucent sheet of density required to produce uniform brightness and minimum halation effects.
3. Opaque Sheet: Where sheet material is indicated as "opaque," provide colored opaque acrylic sheet in colors and finishes as selected by Engineer

G. Hardware:

1. Tamper resistant fasteners to be stainless steel, 3/8" dia. button head Phillips socket pinhead.
2. High strength bolts other than anchor bolts, nuts and washers shall conform to ASTM-A325.
3. Threaded studs shall be low carbon mild steel with a minimum yield strength of 50,000 PSI.
4. All hardware shall be galvanized per ASTM-A153 requirements.
5. Where mechanical fasteners and hardware are required, the shall be of adequate thickness, length and construction to properly secure the sign unit. Any visible portion of any mounting device shall be finished to match adjacent sign surface, unless otherwise specified.
6. Metal fasteners and hardware in contact with dissimilar metals shall have a protective coating or neoprene shields to prevent electrolytic action.

H. Adhesives:

1. Where adhesive mounting techniques are specified, the Contractor shall use adhesives specifically designed for compatibility with the base materials and the desired adhesive strength. All adhesives shall be tested on site. All adhesives shall be indicated in the shop drawings.
2. Surfaces on which signage is to be installed using adhesive shall be free of grease, oil, or any other residue.
3. Foam tape shall be 1/32" thick, high density open cell double coated polyurethane foam tape.
4. Very high bond (VHB) tape shall be double coated acrylic foam tape.
5. Provide necessary amounts of clear silicone sealant or grout for use in pin mounting.

I. Silk Screening:

1. Screen printed text and symbols shall utilize photographically prepared screens and shall be printed in accordance with accepted industry standards. No hand-cut screens will be accepted. All screen printing shall be executed in such a manner that all edges and corners of letterforms are true and clean. Letterforms, color areas, or lines with rounded positive or negative corners, built-up edges, bleeding, spattering, etc. will not be accepted. All photoscreens shall be

- prepared from typesetter's reproduction of the text specified, or camera ready artwork. All artwork and typesetting shall be no less than 50% of actual specified size. All inks shall be applied evenly without pinholes, scratches, orange peeling, etc.
2. All silk screening processes shall be approved by the Engineer prior to fabrication.

J. Typeface:

1. All vinyl and painted copy shall be in the following typefaces to match the letterforms shown in the Detail Drawings:
 - a. Univers Bold
 - b. Century Old Style Reg.
 - c. Century Old Style Italic
 - d. Garamond
 - e. Celestia Antique Italic
 - f. Sabon Bold
 - g. Sabon Roman
 - h. Helvetica Medium
 - i. Helvetica Bold
2. All graphics shall be made with the font specified using a link to the final graphic output device.

K. Typesetting:

1. All typeset messages shall be prepared on a computer. Letterforms shall match the samples shown in the drawings. Output for photographic reproduction shall be 2400 dots per inch. No typesetters' proofs shall be enlarged more than three times for use as graphics.
2. Standard letter spacing and standard word spacing shall be approved by Engineer for all fonts before final manufacture.
3. Typical type and symbol layout for each sign type is indicated on the Drawings. All type shall be placed according to the dimensions shown on the drawings. Should any design conflict occur in the fabrication of the signs; i.e., type not fitting, it shall be brought to the attention of the Engineer.

0.3 FABRICATION

A. Acrylic or Plastic Laminate Panel Signs: Fabricate as follows:

1. Construction: Backplate, 1/8 in. acrylic or plastic laminate.
2. Raised Letter Construction: 1/32 in. routed letters permanently mounted to surface of plate.
3. Border Style: None (straight).
4. Background Texture: Smooth.
5. Edges: Eased.
6. Fasteners: Flexible self-adhesive.
7. Corners: Square.

8. Braille: Provide raised Grade 2 Braille on each sign, as required.
- B. Acrylic Letterform Signs: Fabricate as follows:
 1. Construction: 6 in. high, 1/2 in. deep acrylic.
 2. Projection: 1 in.
 3. Color: Integral black letters.
- C. Fabricate work to be truly straight, plumb, level and square with smooth flat surfaces and sharp corners, except where indicated otherwise.
- D. Precisely form work to sizes, shapes, and profiles indicated on approved shop drawings.
- E. Fabricate work with uniform joints that are not visible.

PART 3 - EXECUTION

0.1 INSPECTION

- A. The Installer shall examine substrates, supports, and conditions under which this work is to be performed and notify Contractor, in writing, of conditions detrimental to the proper completion of the work. Do not proceed with work until unsatisfactory conditions are corrected. Beginning work means Installer accepts substrates and conditions.
- B. Notification Point - Work shall be subject to inspection and approval by the Engineer in the shop or field at any reasonable time. Provide at least 72 hours notice for Engineer's inspection of complete fabricated signs before delivery.

0.2 INSTALLATION/APPLICATION/ERECITION

- A. Strictly comply with approved shop drawings and manufacturer's instructions and recommendations, except where more restrictive requirements are specified in this Section.
- B. Install work plumb, level, in true plane and alignment. Provide signs and graphics where shown or scheduled using mounting methods indicated.
- C. Protect adjacent or adjoining surfaces and work from damage during installation in this Section.
- D. Work shall be designed and anchored so that work will not be distorted nor the fasteners overstressed from expansion and contraction of metal or other materials as applicable.

- E. Acrylic Letterform Sign Installation: Install cut letterform type signage mounted on canopy fascia in accordance with approved shop drawings.

0.3 TOLERANCES

- A. The following allowable installed tolerances are allowable variations from locations and dimensions indicated by the Contract Document and shall not be added to allowable tolerances indicated for other work:
1. Allowable Variation from True Plumb, Level and Line: Plus or minus 1/16 inch from true position for signage smaller than 24 by 24 inches in size; plus or minus 1/8 inch from true position for signage 24 by 24 inches in size and larger.
 2. Allowable Variation from True Plane of Adjacent Surfaces: Plus or minus 1/16 inch.

0.4 CLEANING AND PROTECTION

- A. Adjust work to present the best possible appearance. Touch-up damaged finishes and repair damage to eliminate evidence of repair. Clean exposed surfaces using materials and methods recommended by manufacturer of material or product being cleaned. Remove and replace work that cannot be successfully repaired or cleaned.
- B. Provide temporary protection to ensure work being without damage or deterioration at time of final acceptance. Remove protections and reclean as necessary immediately before final acceptance.
- C. Manufacturer shall provide Authority with information on cleaning and maintenance recommendations for all signs.
- D. Names, stamps and decals of manufacturers, installers or maintainers of signs shall not be visible in the finished work.

0.5 SCHEDULES

- A. Interior Signage Schedule: Provide signage at locations scheduled. Provide required signage at locations indicated on Drawings, or if not indicated, at the following locations:
1. Each room shall have a Room Number and Name sign; letter height 1 to 1-1 /2 inches.
 2. Each floor shall be properly identified in stairways, at each level; letter height 3 to 4 inches.
 3. Each floor shall be properly identified on elevator hoistway entrance jambs; letter height 4 inches.
 4. Each floor shall have elevator safety signage; letter height 1 to 1-1 /2 inches.

PART 4 - MEASUREMENT AND PAYMENT

0.1 MEASUREMENT

- A. Specialty signage will be measured as per each complete in place, including all preparation, accessories and incidentals.

0.2 PAYMENT

- A. Payment for specialty signage will be made at the Contract unit price for the quantities as specified above.

0.3 PAYMENT ITEMS

ITEM NO.	DESCRIPTION	UNIT
1042.024	SPECIALTY SIGNS	EA

END OF SECTION